PATENT COOPERATION TREATY

# PCT



## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

| Applicant's or agent's file reference | FOR FURTHER ACTION See Form PCT/IPEA/416 | |
|---|---|---|
| 207271/KCS/PJB/nlb | | |
| International application No. | International filing date *(day/month/year)* | Priority date *(day/month/year)* |
| PCT/IB 2002/002324 | 29-04-2002 | --- |
| International Patent Classification (IPC) or national classification and IPC | | |
| H04L 29/06 | | |
| Applicant | | |
| Nokia Corporation et al | | |

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☒ *(sent to the applicant and to the International Bureau)* a total of 4 sheets, as follows:
      ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s))
      _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:
   - ☒ Box No. I Basis of the report
   - ☐ Box No. II Priority
   - ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - ☐ Box No. IV Lack of unity of invention
   - ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - ☐ Box No. VI Certain documents cited
   - ☐ Box No. VII Certain defects in the international application
   - ☐ Box No. VIII Certain observations on the international application

| Date of submission of the demand | Date of completion of this report |
|---|---|
| 19-09-2003 | 23-06-2004 |
| Name and mailing address of the IPEA/SE<br>Patent- och registreringsverket<br>Box 5055<br>S-102 42 STOCKHOLM<br>Facsimile No. +46 8 667 72 88 | Authorized officer<br>Kristoffer Ogebjer /LR<br>Telephone No. +46 8 782 25 00 |

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

[redacted]ational application No.
PCT/IB 2002/002324

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

☐ the international application as originally filed/furnished

☒ the description:

pages 1-20 as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____

☒ the claims:

pages _____ as originally filed/furnished
pages* _____ as amended (together with any statement) under Article 19
pages* 21-24 received by this Authority on 19-03-2004
pages* _____ received by this Authority on _____

☒ the drawings:

pages 1-7 as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing *(specify)*: _____
☐ any table(s) related to the sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing *(specify)*: _____
☐ any table(s) related to the sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

ational application No.
PCT/IB 2002/002324

**Box No. V** **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

| | | | |
|---|---|---|---|
| Novelty (N) | Claims | 1-21 | YES |
| | Claims | | NO |
| Inventive step (IS) | Claims | 1-21 | YES |
| | Claims | | NO |
| Industrial applicability (IA) | Claims | 1-21 | YES |
| | Claims | | NO |

2. Citations and explanations (Rule 70.7)

D1: "Stream Control Transmission Protocol" R. Stewart 2000 October.
D2: "TLS over SCTP" Jungmaier A. 2001 14 Nov.

The objective of the invention is to provide a communication between two entities without requiring the fifth adaptation layer.

D1 discloses the SCTP format. The format includes source port and destination port, which distinguish between connections. This is information that concerns the connection and thereby when sent to entities connection information is transferred between the entities.

D2 discloses SCTP signalling, wherein the signalling further contains TLS. The TLS involves handshaking between the entities.

D1 is considered to be the closest state of the art.

The cited documents represent the general state of the art. The invention defined in claims 1-21 is not disclosed by any of these documents.

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed system, entity and method to include port number and connection identity information in a SCTP packet. Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1-21 is novel and is considered to involve an inventive step. The invention is industrially applicable.

CLAIMS

1. An internet protocol based system comprising a plurality of entities, at least two of said entities being arranged to use SCTP for signalling therebetween, said SCTP signalling comprising connection identity information relating to a connection between at least two of said entities.

2, A system as claimed in claim 1, wherein said connection identity information comprises address information.

3, A system as claimed in claim 2, wherein said address information identifies at least one other further entity.

4. A system as claimed in claim 1 or 2, wherein said connection identity information comprises information identifying an application.

5. A system as claimed in claim 1, wherein said connection identity information identifies a connection flow.

6. A system as claimed in any preceding claim, wherein said connection identity information is provided in an SCTP packet.

7. A system as claimed in claim 6, wherein said connection identity information is provided in the data chunk part of the SCTP packet.

8. A system as claimed in claim 7, wherein said connection identity information is provided in a payload protocol identifier field.

9. A system as claimed in claim 7, wherein said connection identity information is provided in a field between a stream sequence number field and user data.

10. A system as claimed in claim 6, wherein said connection identity information is provided in a header for the SCTP packet.

11. A system as claimed in any of claims 6 to 10, wherein said address information is provided in a separate field in said SCTP packet.

12. A system as claimed in any preceding claim, wherein at least one of the two entities is arranged to provide further address information relating to at least one of said two entities.

13. A system as claimed in any of the preceding claims, wherein at least one of said two entities comprises means for sending and/or receiving SCTP packets to and/or from the other of said two entities.

14. A system as claimed in any preceding claim, wherein at least one of said two entities comprises means for setting up SCTP associations.

15. A system as claimed in any preceding claim, wherein at least one of said two entities comprises means for receiving status information relating to SCTP associations.

16. A system as claimed in any preceding claim, wherein at least one of said two entities comprises means for forwarding SCTP packets to a radio network layer in dependence on said connection identity information of said further entity.

17. A system as claimed in any preceding claim, wherein at least one of said two entities comprises means for adding said connection identity information of said further entity to a SCTP packet.

18. A system as claimed in any preceding claim, wherein said further entity comprises at least one of the following:
-user terminal,
-user,
-group of users,
-service,
-network, or part of network,
-server, or
-cell or base transceiver station.

19. A system as claimed in any preceding claim wherein one of said entities is one of the following:
base station; controller; radio network controller; core network; radio network access server; gateway or server
and the other of said entities is one of the following:
base station; controller; radio network controller; core network; radio network access server; gateway or server

20. A method for use in an internet protocol based system comprising a plurality of entities, comprising the steps of:
sending SCTP transport signalling information between two of said entities, said SCTP signalling information comprising connection identity information relating to a connection between said two entities.

21. An entity for use in a internet protocol based system, said entity comprising means for sending to another entity an SCTP transport packet, said entity being arranged to include in said packet connection identity information relating to a connection between at least two of said entities.